

#5

1
SEQUENCE LISTING

<110> Kapulnik, Yoram
Ginzberg, Idit

<120> METHOD FOR SELECTIVE AND OPTIONALLY REVERSIBLE DEGENERATION OF SOMATIC
PLANT TISSUE

<130> 01/21632

<140> US 09/762,243

<141> 1999-07-30

<160> 24

<170> PatentIn version 3.1

<210> 1

<211> 563

<212> DNA

<213> Artificial sequence

<220>

<223> 'sps'-streptavidin artificial gene

<400> 1

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gaggccggca tcaccggcac ctggtacaac cagctcggct cgacctcat cgtgaccg      180
ggcgccgacg gcgccctgac cggaacctac gagtcggccg tcggcaacgc cgagagccgc      240
tacgtcctga ccggtcggtta cgacagcgcc cgggccaccg acggcagcgg caccgccctc      300
ggttggaagg tggcctggaa gaataactac cgcaacgccc actccgcgac cacgtggagc      360
ggccagtacg tcggcggcgc cgaggcgagg atcaacaccc agtggctgct gacctccggc      420
accaccgagg ccaacgcctg gaagtccacg ctggtcggcc acgacacctt caccaagggt      480
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<210> 2

<211> 186

<212> PRT

<213> Artificial sequence

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<223> 'sps'-streptavidin artificial gene product

<400> 2

2

Thr Ala Val Met Arg Lys Ile Val Val Ala Ala Ile Ala Val Ser Leu
1 5 10 15

Thr Thr Val Ser Ile Thr Ala Ser Ala Ser Ala Asp Pro Ser Lys Asp
20 25 30

Ser Lys Ala Gln Val Ser Ala Ala Glu Ala Gly Ile Thr Gly Thr Trp
35 40 45

Tyr Asn Gln Leu Gly Ser Thr Phe Ile Val Thr Ala Gly Ala Asp Gly
50 55 60

Ala Leu Thr Gly Thr Tyr Glu Ser Ala Val Gly Asn Ala Glu Ser Arg
65 70 75 80

Tyr Val Leu Thr Gly Arg Tyr Asp Ser Ala Pro Ala Thr Asp Gly Ser
85 90 95

Gly Thr Ala Leu Gly Trp Thr Val Ala Trp Lys Asn Asn Tyr Arg Asn
100 105 110

Ala His Ser Ala Thr Thr Trp Ser Gly Gln Tyr Val Gly Gly Ala Glu
115 120 125

Ala Arg Ile Asn Thr Gln Trp Leu Leu Thr Ser Gly Thr Thr Glu Ala
130 135 140

Asn Ala Trp Lys Ser Thr Leu Val Gly His Asp Thr Phe Thr Lys Val
145 150 155 160

Lys Pro Ser Ala Ala Ser Ile Asp Ala Ala Lys Lys Ala Gly Val Asn
165 170 175

Asn Gly Asn Pro Leu Asp Ala Val Gln Gln
180 185

<210> 3
<211> 564
<212> DNA
<213> Artificial sequence

<220>
<223> 'mst'-streptavidin artificial gene

<400> 3

gtaaacaatg gctcgcaaga tcgtcgttgc agccatcgcc gtttccctga ccaagggtctc 60
 gattacggcc agcgcttcgg cagacccctc caaggactcg aaggcccagg tctcggccgc 120
 cgaggccggc atcaccggca cctggtacaa ccagctcggc tcgaccttca tcgtgaccgc 180
 gggcgccgac ggcgcctga ccggaaccta cgagtcggcc gtcggcaacg ccgagagccg 240
 ctacgtcctg accggtcgtt acgacagcgc cccggccacc gacggcagcg gcaccgcctt 300
 cggttgagcg gtggcctgga agaataacta ccgcaacgcc cactccgcga ccacgtggag 360
 cggccagtac gtcggcggcg ccgaggcgag gatcaacacc cagtggctgc tgacctccgg 420
 caccaccgag gccaacgcct ggaagtccac gctggtcggc cacgacacct tcaccaaggt 480
 gaagccgtcc gccgcctcca tcgacgcggc gaagaaggcc ggcgtcaaca acggcaaccc 540
 gctcgacgcc gttcagcagt agtc 564

<210> 4
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 <212> PRT
 <213> Artificial sequence

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<400> 4

Met Ala Arg Lys Ile Val Val Ala Ala Ile Ala Val Ser Leu Thr Thr
 1 5 10 15

Val Ser Ile Thr Ala Ser Ala Ser Ala Asp Pro Ser Lys Asp Ser Lys
 20 25 30

Ala Gln Val Ser Ala Ala Glu Ala Gly Ile Thr Gly Thr Trp Tyr Asn
 35 40 45

Gln Leu Gly Ser Thr Phe Ile Val Thr Ala Gly Ala Asp Gly Ala Leu
 50 55 60

Thr Gly Thr Tyr Glu Ser Ala Val Gly Asn Ala Glu Ser Arg Tyr Val
 65 70 75 80

Leu Thr Gly Arg Tyr Asp Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr
 85 90 95

Ala Leu Gly Trp Thr Val Ala Trp Lys Asn Asn Tyr Arg Asn Ala His
 100 105 110

Ser Ala Thr Thr Trp Ser Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg
 115 120 125

Ile Asn Thr Gln Trp Leu Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala
 130 135 140

Trp Lys Ser Thr Leu Val Gly His Asp Thr Phe Thr Lys Val Lys Pro
 145 150 155 160

Ser Ala Ala Ser Ile Asp Ala Ala Lys Lys Ala Gly Val Asn Asn Gly
 165 170 175

Asn Pro Leu Asp Ala Val Gln Gln
 180

<210> 5
 <211> 492
 <212> DNA
 <213> Artificial sequence
 <220>
 <223> 'prost'- streptavidin artificial gene

<400> 5
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 caccggcacc tggtagaacc agctcggctc gaccttcac gtgaccgcgcg gcgcccgcgcg 120
 cgccctgacc ggaacctacg agtcggccgt cggcaacgcc gagagccgct acgtcctgac 180
 cggtcgttac gacagcgccc cgccaccga cggcagcggc accgccctcg gttggacggt 240
 ggcttgaag aataactacc gcaacgccc ctccgcgacc acgtggagcg gccagtacgt 300
 cggcggcgcc gaggcgagga tcaacacca gtggctgctg acctccggca ccaccgaggc 360
 caacgcctgg aagtccacgc tggtcggcca cgacacctc accaaggtga agccgtccgc 420
 cgctccatc gacgcggcga agaaggccgc cgtcaacaac ggcaaccgc tcgacgcgt 480
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<210> 6
 <211> 162
 <212> PRT
 <213> Artificial sequence
 <220>
 <223> 'prost'- streptavidin artificial gene product

<400> 6

Thr Ala Val Asp Pro Ser Lys Asp Ser Lys Ala Gln Val Ser Ala Ala
 1 5 10 15

Glu Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe
 20 25 30

Ile Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser
 35 40 45

Ala Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp
 50 55 60

Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val
 65 70 75 80

Ala Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser
 85 90 95

Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu
 100 105 110

Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val
 115 120 125

Gly His Asp Thr Phe Thr Lys Val Lys Pro Ser Ala Ala Ser Ile Asp
 130 135 140

Ala Ala Lys Lys Ala Gly Val Asn Asn Gly Asn Pro Leu Asp Ala Val
 145 150 155 160

Gln Gln

<210> 7

<211> 495

<212> DNA

<213> Artificial sequence

<220>

<223> 'mprost'- streptavidin artificial gene

<400> 7

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catcaccggc acctggtaca accagctcgg ctcgaccttc atcgtgaccg cgggcgccga      120
cggcgccctg accggaacct acgagtcggc cgtcggcaac gccgagagcc gctacgtcct      180
gaccggctgt tacgacagcg ccccggccac cgacggcagc ggcaccgccc tcggttgga      240
ggtggcctgg aagaataact accgcaacgc ccactccgcg accacgtgga gcggccagta      300
cgtcggcggc gccgaggcga ggatcaacac ccagtggctg ctgacctcg gcaccaccga      360
ggccaacgcc tggaagtcca cgctggtcgg ccacgacacc ttcaccaagg tgaagccgtc      420
cgccgcctcc atcgacgcgg cgaagaaggc cggcgtcaac aacggcaacc cgctcgacgc      480
cgttcagcag tagtc                                          495

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<210> 8
<211> 161
<212> PRT
<213> Artificial sequence

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<220>
<223> 'mprost'- streptavidin artificial gene product

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<400> 8

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Met Ala Asp Pro Ser Lys Asp Ser Lys Ala Gln Val Ser Ala Ala Glu
1              5              10             15

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Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe Ile
                20             25             30

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Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser Ala
35              40              45

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Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp Ser
50              55              60

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Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val Ala
65              70              75             80

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Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser Gly
85              90              95

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Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu Leu
100             105             110

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Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val Gly

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115

120

125

His Asp Thr Phe Thr Lys Val Lys Pro Ser Ala Ala Ser Ile Asp Ala
 130 135 140

Ala Lys Lys Ala Gly Val Asn Asn Gly Asn Pro Leu Asp Ala Val Gln
 145 150 155 160

Gln

<210> 9
 <211> 369
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 'cst'- streptavidin artificial gene

<400> 9
 actgcaggca tcaccggcac ctggtacaac cagctcggct cgaccttcac cgtgaccgcg 60
 ggccgagcgc gcgccctgac cggaacctac gagtcggccg tcggcaacgc cgagagccgc 120
 tacgtcctga ccggtcggtta cgacagcgcc ccggccaccg acggcagcgg caccgccctc 180
 ggttgagcgc tggcctggaa gaataactac cgcaacgccc actccgcgac cacgtggagc 240
 ggccagtacg tcggcggcgc cgaggcgagg atcaacaccc agtggctgct gacctccggc 300
 accaccgagg ccaacgcctg gaagtcacg ctggtcggcc acgacacctt caccaagggtg 360
 aagccgtag 369

<210> 10
 <211> 122
 <212> PRT
 <213> Artificial sequence

<220>
 <223> 'cst'- streptavidin artificial gene product

<400> 10

Thr Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe
 1 5 10 15

Ile Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser
 20 25 30

Ala Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp
 35 40 45

Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val
 50 55 60

Ala Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser
 65 70 75 80

Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu
 85 90 95

Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val
 100 105 110

Gly His Asp Thr Phe Thr Lys Val Lys Pro
 115 120

<210> 11
 <211> 376
 <212> DNA
 <213> Artificial sequence

<220>
 <223> 'cyto' - streptavidin artificial gene

<400> 11
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 gaccgcgggc gccgacggcg cctgaccgg aacctacgag tcggccgtcg gcaacgccga 120
 gagccgctac gtctgaccg gtcgttacga cagcgccccg gccaccgacg gcagcggcac 180
 cgccctcggg tggacggtgg cctggaagaa taactaccgc aacgcccact ccgcgaccac 240
 gtggagcggc cagtacgtcg gcggcgccga ggcgaggatc aacacccagt ggctgctgac 300
 ctccggcacc accgaggcca acgcctggaa gtccacgctg gtcggccacg acaccttcac 360
 caaggtgaag ccgtag 376

<210> 12
 <211> 122
 <212> PRT
 <213> Artificial sequence

<220>
 <223> 'cyto' - streptavidin artificial gene product

<400> 12

Met Ala Gly Ile Thr Gly Thr Trp Tyr Asn Gln Leu Gly Ser Thr Phe
 1 5 10 15

Ile Val Thr Ala Gly Ala Asp Gly Ala Leu Thr Gly Thr Tyr Glu Ser
 20 25 30

Ala Val Gly Asn Ala Glu Ser Arg Tyr Val Leu Thr Gly Arg Tyr Asp
 35 40 45

Ser Ala Pro Ala Thr Asp Gly Ser Gly Thr Ala Leu Gly Trp Thr Val
 50 55 60

Ala Trp Lys Asn Asn Tyr Arg Asn Ala His Ser Ala Thr Thr Trp Ser
 65 70 75 80

Gly Gln Tyr Val Gly Gly Ala Glu Ala Arg Ile Asn Thr Gln Trp Leu
 85 90 95

Leu Thr Ser Gly Thr Thr Glu Ala Asn Ala Trp Lys Ser Thr Leu Val
 100 105 110

Gly His Asp Thr Phe Thr Lys Val Lys Pro
 115 120

<210> 13
 <211> 63
 <212> DNA
 <213> Triticum aestivum

<400> 13
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 gtt 63

<210> 14
 <211> 20
 <212> PRT
 <213> Triticum aestivum

<400> 14

Met Lys Thr Phe Leu Ile Leu Val Leu Leu Ala Ile Val Ala Thr Thr
 1 5 10 15

Ala Thr Thr Ala
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<210> 15
<211> 25
<212> DNA
<213> Artificial sequence

<220>
<223> synthetic oligonucleotide

<400> 15
actgcagtta tgcgcaagat cgtcg 25

<210> 16
<211> 18
<212> DNA
<213> Artificial sequence

<220>
<223> synthetic oligonucleotide

<400> 16
gactactgct gaacggcg 18

<210> 17
<211> 32
<212> DNA
<213> Artificial sequence

<220>
<223> synthetic oligonucleotide

<400> 17
gtaaacaatg gctcgcaaga tcgtcgttgc ag 32

<210> 18
<211> 37
<212> DNA
<213> Artificial sequence

<220>
<223> synthetic oligonucleotide

<400> 18
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<210> 19
<211> 40
<212> DNA
<213> Artificial sequence

<220>
<223> synthetic oligonucleotide

<400> 19
 gtaaacaatg gctgaccctt ccaaggactc gaaggcccag 40

<210> 20
 <211> 30
 <212> DNA
 <213> Artificial sequence

<220>
 <223> synthetic oligonucleotide

<400> 20
 actgcaggca tcaccggcac ctggtacaac 30

<210> 21
 <211> 22
 <212> DNA
 <213> Artificial sequence

<220>
 <223> synthetic oligonucleotide

<400> 21
 ctacggcttc accttggtga ag 22

<210> 22
 <211> 37
 <212> DNA
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<220>
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<400> 22
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<210> 23
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>
 <223> synthetic oligonucleotide

<400> 23
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<210> 24
 <211> 20
 <212> DNA
 <213> Artificial sequence

<220>

<223> synthetic oligonucleotide

<400> 24

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